AMENDMENT TO THE CLAIMS

1. (currently amended) A radar level gauge for measuring the level of a surface of a product stored in a container, said level gauge including:

an antenna unit for transmitting microwave signals towards said surface and for receiving microwave signals reflected by said surface,

a measuring and controlling unit for determining the level based on an evaluation of the time lapsed between the transmitted and the received signals,

a radar module connected to said antenna unit, for generating microwave signals on at least two different frequency bands,

said radar module including:

- a microwave generating source for providing a first microwave signal of a first frequency band having a first center frequency,

- at least one frequency multiplier coupled between said microwave generating source and said antenna unit for providing a second microwave signal of a second frequency band having a second center frequency, wherein the ratio between the second and the first center frequency is at least 1.5, and

- switches operated by means of a control signal for switching the radar module to operate on said first frequency band or said second frequency band, and

a signal analyzer for analyzing the received signals on the frequencies transmitted by the antenna, and, based on analysis of the received signals, deciding on which frequencies the radar module will be operated, and generating said control signal.

2. (previously presented) The radar level gauge according to claim 1, wherein the radar module further includes:

- a number of first switches for the choice of an operating frequency(fo,mfo) to be delivered to the antenna unit,

- a number of mixers for mixing the microwave signal received from the antenna unit with the chosen operating frequency for the forming of an IF-frequency,

- a number of second switches for directing the microwave operating frequency to a mixer corresponding to the operating frequency and

- the choice of operating frequency for the circuit is made by a control signal controlling the switches.

3. (previously presented) The radar level gauge according to claim 2, including:

- a chain of at least two frequency multipliers coupled in series between the source and the antenna unit.

4. (canceled)

5. (previously presented) The radar level gauge according to claim 3, including:

- each one of said multiplier multiplying the input microwave frequency by a predetermined constant.

6. (canceled)

7. (previously presented) The radar level gauge according to claim 2, wherein said microwave generating source includes a voltage control oscillator VCO.

8. (previously presented) The radar level gauge according to claim 7, wherein said microwave generating source includes a phase looked loop.

9. (previously presented) A method for measuring the level of the surface of a product stored in a container by means of a radar level gauge, wherein said level gauge includes a radar for transmitting microwave signals from a multiband antenna unit towards said surface for receiving by said same antenna unit microwave signals reflected by said surface and for determining the level based on an evaluation of the time lapsed between the received and the transmitted signals

and said radar operating on at least two different frequency bands, comprising the steps of:

- using a microwave generating source for providing a first microwave signal of a first frequency band having a first center frequency,

- multiplying, in at least one frequency multiplier coupled between said microwave generating source and said antenna unit, said first microwave signal for providing a second microwave signal of a second frequency band having a second center frequency, wherein the ratio between the second and the first center frequency is at least 1.5,

- providing said radar with switches for switching the radar to operate on said first frequency band or said second frequency band,

- analyzing the received signals on the frequencies transmitted by the radar level gauge,

- based on said analysis, deciding on which frequencies the radar level gauge will be operated, and

-controlling said switches by means of a control signal to operate said radar level gauge on said selected frequencies.

10. (previously presented) The method according to claim 9, further comprising the step of:

- generating a microwave having a fixed frequency f_0,

- multiplying in said at least one frequency multiplier said fixed frequency f_0 by a factor m for obtaining a frequency m f_0 being the factor m higher than said fixed frequency,

- choosing by means of controlling a number of first switches an operating frequency (f_0, mf_0) to be delivered to the antenna unit,

- directing the microwave operating frequency to a mixer corresponding to the operating frequency,

- mixing the microwave signal received from the antenna unit with the chosen operating frequency for the forming of an IF-frequency and

- selecting an operating frequency for the circuit by means of said control signal controlling said switches.

11. (canceled)

12. (previously presented) The radar level gauge according to claim 1, wherein said switches comprise a switch for selectively connecting said first or said second microwave signal to said antenna.

13. (previously presented) The radar level gauge according to claim 1, further comprising:

a first and a second mixer connected to receive the reflected microwave signal from the antenna unit, for forming an intermediate frequency (IF) signal,

a first power divider for directing a portion of said first microwave signal to said first mixer,

a second power divider for directing a portion of said second microwave signal to said second mixer.

14. (previously presented) The radar level gauge according to claim 13, wherein said switches comprise a switch for connecting a selected one of said mixers to said antenna unit.

15. (previously presented) The radar level gauge according to claim 1, wherein the ratio between the second and the first center frequency is at least 2.

16. (previously presented) The method according to claim 9, wherein the ratio between the second and the first center frequency is at least 2.